

Appl. No. 09/447,378
Amdt. Dated October 1, 2003
Reply to Office Action of May 2, 2003

Attorney Docket No. 81784.0014
Customer No.: 26021

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented): A liquid crystal display device for displaying by controlling the orientation of a liquid crystal by means of a plurality of pixel electrodes formed for each pixel and an opposing electrode disposed to oppose the plurality of pixel electrodes with the liquid crystal therebetween, comprising:

an orientation divider for dividing an orientation direction of the liquid crystal in a single pixel into a plurality of directions, the orientation divider being provided in a space region between the pixel and an adjacent pixel and in a region other than the space region; and

a light-shielding film which is disposed to overlap with boundaries of the orientation directions of the liquid crystal formed by the orientation divider, the light-shielding film overlapping the orientation divider in the region other than the space region along an extension direction of the orientation divider.

2. (Original): A liquid crystal display device according to claim 1, wherein:

the liquid crystal is sealed between a first substrate and a second substrate which are disposed so as to oppose each other;

the first substrate has gate signal lines, drain signal lines, and switching elements connected to the gate signal lines and the drain signal lines;

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the opposing electrode is formed on the second substrate to oppose the liquid crystal.

3. (Original): A liquid crystal display device according to claim 2, wherein the orientation divider divides the orientation direction of the liquid crystal by generating an electric field which is inclined with respect to the normal line of the pixel electrode and/or the opposing electrode.

4. (Original): A liquid crystal display device according to claim 2, wherein:

the orientation divider is an orientation control window which is formed by forming an opening in the opposing electrode at a position to overlap with the pixel electrode of the opposing electrode; and

the orientation divider divides the orientation direction of the liquid crystal by generating an electric field inclined with respect to the normal line of the pixel electrode and/or the opposing electrode.

5. (Original): A liquid crystal display device according to claim 4, wherein the light-shielding film is the drain signal line.

6-9 (Cancelled).

10. (Original): A liquid crystal display device according to claim 1, wherein the liquid crystal has a negative anisotropy of dielectric constant, and a vertical orientation film is formed to cover the pixel electrodes.

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electrodes formed for each pixel and an opposing electrode disposed to oppose the plurality of pixel electrodes with the liquid crystal therebetween, comprising:

an orientation divider for dividing an orientation direction of the liquid crystal in a single pixel into a plurality of directions; and

a light-shielding film which is disposed to overlap with boundaries of the orientation directions of the liquid crystal formed by the orientation divider;

wherein the liquid crystal has a negative anisotropy of dielectric constant, and a vertical orientation film is formed to cover the pixel electrodes; and

wherein the orientation divider has a width different from that of the light-shielding film.

12-14 (Cancelled).

15. (Previously Presented): A liquid crystal display device for displaying by controlling the orientation of a liquid crystal by means of a plurality of pixel electrodes formed for each pixel and an opposing electrode disposed to oppose the plurality of pixel electrodes with the liquid crystal therebetween, comprising:

an orientation divider for dividing an orientation direction of the liquid crystal in a single pixel into a plurality of directions, the orientation divider being provided in a space region between the pixel and an adjacent pixel and in a region other than the space region; and

a light-shielding film which is disposed to overlap with boundaries of the orientation directions of the liquid crystal formed by the orientation divider, the light-shielding film being a conductive material, the light-shielding film overlapping the orientation divider in the region other than the space region along an extension

16. (Original): A liquid crystal display device according to claim 15, wherein:

the liquid crystal is sealed between a first substrate and a second substrate which are disposed so as to oppose each other;

the first substrate has gate signal lines, drain signal lines, and switching elements connected to the gate signal lines and the drain signal lines;

the pixel electrodes are connected to the switching elements; and

the opposing electrode is formed on the second substrate to oppose the liquid crystal.

17. (Original): A liquid crystal display device according to claim 16, wherein the light-shielding film is the drain signal line.

18. (Cancelled).

19. (Original): A liquid crystal display device according to claim 15, wherein the liquid crystal has a negative anisotropy of dielectric constant, and a vertical orientation film is formed to cover the pixel electrodes.

20. (Previously Presented): A liquid crystal display device for displaying by controlling the orientation of a liquid crystal by means of a plurality of pixel electrodes formed for each pixel and an opposing electrode disposed to oppose the plurality of pixel electrodes with the liquid crystal therebetween, comprising:

an orientation divider for dividing an orientation direction of the liquid crystal in a single pixel into a plurality of directions; and

a light-shielding film which is disposed to overlap with boundaries of the

wherein the liquid crystal has a negative and anisotropy of dielectric constant, and a vertical orientation film is formed to cover the pixel electrodes;

wherein the orientation divider has a width different from that of the light-shielding film.

21-23 (Cancelled).

24. (Previously Presented): A liquid crystal display device, characterized in that:

liquid crystal is sealed between a first substrate and a second substrate which are disposed so as to oppose each other;

the first substrate has switching elements connected to gate signal lines and drain signal lines, pixel electrodes which are connected to the switching elements and made of a conductive material and a vertical orientation film for orienting the liquid crystal;

the second substrate has an opposing electrode which has orientation control windows at positions overlapping with the pixel electrodes to control the orientation of the liquid crystal and a vertical orientation film for orienting the liquid crystal;

the drain signal lines are disposed on the first substrate at positions that overlap with the orientation control window; and

the orientation control windows include a region which extends in a predetermined direction and the drain signal lines are disposed to overlap the extension region along the longitudinal direction of the extension region.

25. (Previously Presented) A liquid crystal display device, characterized in that:

liquid crystal is sealed between a first substrate and a second substrate which are disposed so as to oppose each other;

the first substrate has switching elements connected to gate signal lines and drain signal lines, pixel electrodes which are connected to the switching elements and made of a conductive material and a vertical orientation film for orienting the liquid crystal;

the second substrate has an opposing electrode which has orientation control windows at positions overlapping with the pixel electrodes to control the orientation of the liquid crystal and a vertical orientation film for orienting the liquid crystal;

the drain signal lines are disposed on the first substrate at positions that overlap with the orientation control windows; and

wherein the orientation control window has a width different from that of the drain signal line overlapping with the orientation control window.

26-38 (Cancelled).

39. (Previously Presented): A liquid crystal display device for displaying by controlling the orientation of a liquid crystal by means of a plurality of pixel electrodes formed for each pixel and an opposing electrode disposed to oppose the plurality of pixel electrodes with the liquid crystal therebetween, comprising:

an orientation divider for dividing an orientation direction of the liquid crystal in a single pixel into a plurality of directions;

a light-shielding film which is disposed to overlap with boundaries of the

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an orientation divider extending in a predetermined direction is provided on the side of the opposing substrate and a light-shielding film is disposed to overlap the divider along the extension direction of the divider.